



Asthma Basics

WHAT IS ASTHMA?

Asthma is a very common condition that affects up to one in six children. The cause of asthma is unknown. Most likely the causes are a combination of inherited and environmental factors.

The main problem with asthma is that the airways in the lungs become very narrow. This makes it hard to breathe. This narrowing is caused by three things:

- *Bronchospasm* – The airway walls are made of smooth muscle, and in asthma these muscles (especially in the small airways deep inside the lungs) go into “spasm”, which causes narrowing of the airway.
- *Inflammation* – The lining inside of the airway becomes inflamed and swells, causing more narrowing.
- *Mucus* – When the airway lining becomes inflamed, it produces more mucus than normal, which also obstructs airflow.

WHAT ARE THE SYMPTOMS OF ASTHMA?

The main symptoms of asthma are wheezing and coughing. Wheezing is a musical, whistling sound made by the air as it flows through multiple narrowed airways. Wheezing is best heard with the use of a stethoscope. When more severe, wheezing can also be heard by the naked ear. With asthma, it becomes hard to exhale, even if inhaling is easy. Coughing is also prominent in asthma. When asthma is more severe, shortness of breath and tightness in the chest occur. During an asthma attack, you can sometimes see the chest move in and out more deeply, and see the spaces between or beneath the ribs, and at the base of the neck, indent with inspiration. These are called “retractions”.

In severe asthma, the air exchange during breathing can be so bad that the patient actually starts to turn blue. A child may have difficulty speaking and may become very anxious or very tired. These signs and symptoms constitute a severe emergency.

WHAT TRIGGERS AN ASTHMA ATTACK?

Many different things can trigger asthma attacks. These include colds or other respiratory infections, exercise, allergies, cold air, and pollution and other irritants such as tobacco smoke.

WHAT INCREASES YOUR CHILD'S RISK FOR ASTHMA?

If you or other members of your family have asthma, your child may be at risk. Childhood eczema and nasal allergies also increase the risk for asthma.

WHAT ARE POSSIBLE COMPLICATIONS OF ASTHMA?

Severe asthma attacks can become so bad that children may need to be hospitalized. Patients whose asthma is poorly controlled not only miss more days of school, but they are more likely to require emergency room visits and systemic steroid treatments. Influenza infections (the “flu”) can be more severe, and complications such as pneumonia are more severe, when asthma is poorly controlled. However, children who are properly treated can be completely controlled and lead a normal life, including active sports participation.

HOW IS ASTHMA TREATED OR PREVENTED?

As medical professionals, our job is to work with you to prevent asthma attacks and to treat symptoms. There are two important parts of a successful asthma treatment plan. One is to avoid the things that trigger your child's asthma. This includes avoiding colds, allergens, and irritants like tobacco smoke. And since influenza (the flu) can trigger asthma, getting a flu vaccine each year is very important.

The other part of an asthma plan is to use the right medications, which will depend upon the frequency and severity of the symptoms. We will work with you, and see your child regularly to assess and maintain optimal control.